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1. Twice amended A cobalt-iron binary alloy electroplated film having a saturation magnetization of at least about 2.30 Tesla, said film being substantially free of oxygen and iron oxide, anisotropic and consisting of a binary alloy (100%-x) Co(x)Fe, where x is between about 55% and about 75% by weight.

Please add the following new claim:

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--29. A magnetic recording head comprising a cobalt-iron binary alloy electroplated film having a saturation magnetization of at least about 2.30 Tesla, said film being substantially free of oxygen and iron oxide, anisotropic and consisting of a binary alloy (100%-x) Co(x)Fe, where x is between about 55% and about 75% by weight. --

#### REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the specific grounds of rejection raised in the present Office Action, applicants have amended Claim 1 to positively recite that the claimed film is *substantially free of oxygen and iron oxide and that the film is anisotropic*. Support for this amendment to Claim 1 is found at Page 10, lines 30-31; Page 12, lines 27-29; and Page 13, line 21.

Applicants have also added new Claim 29 which is directed to a magnetic recording head comprising the claimed cobalt-iron binary alloy electroplated film recited in amended Claim 1. Support for new Claim 29 is found at Page 1, lines 9-10; and Page 10, lines 23-25 of the specification of the present application.

Since the above amendments to the claims do not introduce any new matter into the application, entry thereof is respectfully requested. Pursuant to 37 C.F.R. §1.121, applicants have attached a marked-up copy of the claims which shows the changes made to those claims

by the current amendment. The attachment is captioned as "**MARKED-UP VERSION SHOWING CHANGES MADE**".

In the present Office Action, Claims 1-10 and 28 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by or, in the alternative, under 35 U.S.C. §103 as allegedly unpatentable over the article to E.M. Kakuno, et al. entitled "Structure, Composition, and Morphology of Electrodeposited  $\text{Co}_x\text{Fe}_{1-x}$  Alloys", J. Electrochemical Soc., Vol. 144, No. 9, September 9, 1997, pp. 3222-3226 ("Kakuno, et al.").

Concerning the §102(b) rejection, it is axiomatic that anticipation under §102 requires that the prior art reference disclose each and every element of the claim to which it is applied. In re King, 801 F.2d, 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1996). Thus, there must be no differences between the subject matter of the claim and the disclosure of the prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: Absence from the applied reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

Applicants respectfully submit that the claims of the present application are not anticipated by the disclosure of Kakuno, et al. since the applied prior art reference does not disclose applicants' claimed cobalt-iron binary alloy electroplated film which has a saturation magnetization of at least about 2.30 Telsa, is substantially free of oxygen and iron oxide, anisotropic and consisting of a binary alloy (100%-x)  $\text{Co}(x)\text{Fe}$ , where x is between about 55% and about 75% by weight. The term "anisotropic" is used in the present invention to denote a film exhibiting properties with different values when measured along axes in different directions.

Kakuno, et al. investigated the structure, composition and morphology of  $\text{Co}_x\text{Fe}_{1-x}$  alloys prepared on a copper substrate under potentiostatic electrodeposition conditions to produce composition modulated alloys. In Kakuno, et al.,  $x$  is from 0 to 1. Applicants respectfully submit that Kakuno, et al. do not disclose a cobalt-iron binary alloy having the claimed features. Specifically, Kakuno, et al. do not disclose a cobalt-iron binary electroplated film having *a saturation magnetization of at least about 2.30 Tesla, which is substantially free of oxygen and iron oxide, and that the film is anisotropic*. These features of the claimed invention are not disclosed in the Kakuno, et al. article; therefore the claims of the present invention cannot be anticipated by the disclosure of Kakuno, et al.

The foregoing remarks clearly demonstrate that the applied reference does not teach each and every aspect of the claimed invention, as required by King and Kloster Speedsteel; therefore the claims of the present application are not anticipated by the disclosure of Kakuno, et al. Applicants respectfully submit that the instant §102(b) rejection has been obviated and withdrawal thereof is respectfully requested.

With respect to the §103 rejection, applicants submit that the claims of the present invention are not rendered unpatentable by the disclosure of Kakuno, et al., since the applied reference does not teach or suggest applicants' claimed cobalt-iron binary electroplated film having *a saturation magnetization of at least about 2.30 Tesla, which is substantially free of oxygen and iron oxide, and that the film is anisotropic*. Applicants respectfully submit that the applied prior art reference does not mention that their cobalt iron alloys have the claimed features recited above. Indeed, the applied reference is silent in regard to applicants' claimed features.

Applicants further submit that in the applied reference the film deposit has some oxygen and/or oxide present therein as is evident by the fact that the the applied reference

indicated the presence of  $\text{Fe}(\text{OH})^+$  and  $\text{Co}(\text{OH})^+$  intermediates. See Page 3225, right hand column.

The §103 rejection fails because there is no motivation in the applied reference which suggest modifying the disclosed deposits of the applied reference to include the various features recited in the claims of the present invention. Thus, there is no motivation provided in the applied references, or otherwise of record, to make the modification mentioned above. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Vaeck, 947 F.2d, 488, 493, 20 USPQ 2d. 1438, 1442 (Fed.Cir. 1991).

The rejection under 35 U.S.C. §103 has been obviated; therefore reconsideration and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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**ATTACHMENT:VERSION WITH MARKINGS SHOWING CHANGES**

**MADE IN THE CLAIMS:**

Please amend Claim 1 to read as follows:

1. (Twice amended) A cobalt-iron binary alloy electroplated film having a saturation magnetization of at least about 2.30 Tesla, said film being substantially free of oxygen and iron oxide, anisotropic and consisting of a binary alloy (100%-x) Co(x)Fe, where x is between about 55% and about 75% by weight.

Please add the following new claim:

--29. A magnetic recording head comprising a cobalt-iron binary alloy electroplated film having a saturation magnetization of at least about 2.30 Tesla, said film being substantially free of oxygen and iron oxide, anisotropic and consisting of a binary alloy (100%-x) Co(x)Fe, where x is between about 55% and about 75% by weight. --